

MEETING MINUTES
LIGNITE RESEARCH COUNCIL
February 22, 2000
Radisson Inn, Bismarck, ND

MEMBERS (or their authorized alternates) PRESENT:

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| Kevin Cramer | ND Department of Economic Development and Finance |
| John Dwyer | Lignite Energy Council |
| Bruce Hagen | North Dakota Public Service Commission |
| Terry Hildestad | Knife River Corporation |
| Stephen Hovey | BNI Coal, Ltd. |
| Bruce Imsdahl | Montana-Dakota Utilities Company |
| Marlowe Johnson | Otter Tail Power Company |
| Bruce Kopp | Northern States Power Company |
| Luther Kvernen | Minnkota Power Cooperative |
| Vernon Laning | Basin Electric Power Cooperative |
| Ed Murphy | North Dakota Geological Survey |
| Mark Nygard | Coal Conversion Counties Association |
| John Pelerine | Great River Energy – Stanton Station |
| Dean Peterson | The North American Coal Corporation |
| Francis Schwindt | North Dakota Department of Health |
| Fred Stern | Dakota Gasification Company |

OTHERS PRESENT:

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| Dave Allard | Lignite Energy Council |
| Charlie Bullinger | Great River Energy – Coal Creek Station |
| Jim Deutsch | North Dakota Public Service Commission |
| Karlene Fine | Industrial Commission of North Dakota |
| Vicki Gilmore | Lignite Energy Council |
| Wally Goulet | Basin Electric Power Cooperative |
| Dennis James | The Falkirk Mining Company |
| Carmen Miller | North Dakota Attorney General's Office |
| Mark Ness | Great River Energy |
| Clifford R. Porter | Lignite Research Council |
| Tony Rude | Lignite Energy Council |
| Rich Voss | Lignite Energy Council |
| John Weeda | Great River Energy – Coal Creek Station |
| Rich Weinstein | The Falkirk Mining Company |
| Chris Zygarlicke | Energy & Environmental Research Center |

Lignite Research Council (LRC) chairman John Dwyer called the LRC meeting to order on February 22, 2000, at Radisson Inn, Bismarck, North Dakota. He asked Clifford Porter to present the financial summary.

Financial Summary

Porter summarized the North Dakota Lignite Research, Development and Marketing Program financial data for the 1999-2001 biennium as of December 31, 1999.

Porter said that for cash expenditures, the budget amounts and balances for the following budget items are: Administration (Budget amount: \$400,000; Balance: \$315, 870); Market Feasibility Studies (\$795,800; \$729,185); Small Research Projects: (\$1,951,478; \$1,502,187); Demonstration Projects: (\$13,047,010; \$12,139,926). There was \$16,194,288 at the start of the biennium, with \$14,687,159 remaining.

Porter said that the \$500,000 in uncommitted funds budgeted for Marketing Feasibility Studies technically has been committed by the Lignite Research Council Executive Committee for the Lignite Vision 21 Project, which will be explained later in the meeting.

In the small research projects area, Porter said \$705,957 in uncommitted 1999-2001 biennium funds was available prior to the February 22, 2000 LRC meeting.

In the demonstration projects area, there is a carryover of \$995,852 in unobligated funding from the 1997-99 biennium, a carryover of \$250,000 for commitment to Joint Program funding; \$3,594,000 estimated for 1999-2001 production; \$219,968 additional production, and carryover of obligated funds in the amount of \$7,171,200 = a subtotal of \$12,231,010. Subtracting the Program Series A Bond of \$2,140,707, Joint Program funding of \$250,000, and committed funds of \$7,171,200 from the \$12,231,010 = \$2,669,103 in available funding for demonstration projects for the 1999-2001 biennium.

As of February 22, 2000, Porter said the \$3,875,060 available in project funding totals for the 1999-2001 biennium for the following three areas breaks down as follows: Marketing Feasibility Studies: \$500,000 (which has been recommended by the LRC Executive Committee to be obligated for the Lignite Vision 21 Project); Small Research Projects: \$705,957; and Demonstration Projects: \$2,669,103.

October 26, 1999 Minutes Approved

Dwyer asked for a motion to approve the minutes of the October 26, 1999 LRC meeting. Bruce Hagen so moved; seconded by Dean Peterson. Motion carried.

Lignite Research, Development and Marketing Program Updates

Porter summarized the program updates listed on pages 11 and 12 of the LRC meeting book. He said two of the lignite marketing feasibility studies are completed and six are in progress. Five of the six in progress pertain to the Lignite Vision 21 Project.

In the small research project area, Porter said 14 projects have signed contracts. Two of those projects are completed and one project was cancelled (FY99-XXXI-85: "Integrated Fluid-Bed – Asphalt Paving System".) Three small research projects' contracts have not yet been signed.

In the demonstration projects area, Porter said six projects have signed contracts. There is one project with an unsigned contract (FY98-XXVIII-78: "An Application for Funding Assistance for the Capture, Compression and Transportation of Carbon Dioxide derived from the Gasification of North Dakota Lignite for Enhanced Oil Recovery".)

In summary, Porter said there are seven small research projects receiving a total of \$1,549,556 in this biennium. He said that all of 85 small research projects (including the one cancelled project) are listed on pages 18 and 19 of the LRC meeting book.

The total funding for those projects is \$6,599,848; the total project costs = \$32,400,160. That results in the following ratio: Each \$1 from the state fund gives a total project dollar cost of \$4.70.

Porter said there are 20 active small research projects (not yet completed). The total funding for these projects is \$3,501,450; the matching funds for these projects are \$18,491,686.

There are six current marketing feasibility studies not yet completed. The total project costs = \$322,800.

For the four current demonstration projects that are not yet completed, there is a total Lignite Research Fund funding of \$7,356,500, and total project costs of \$112,467,800.

Grant Round XXXVI Grant Application

LRC-XXXVI-A: “Evaluation of Potential SCR Catalyst Blinding During Coal Combustion”;

Submitted by: Energy & Environmental Research Center; Co-Project Managers: Steven A. Benson, Ph.D.; Jay R. Gunderson; Chris J. Zygarlicke; Request for: \$200,000; Total Project Cost: \$733,333; Timeframe: 24 months.

Dwyer asked Porter to summarize the Grant Round XXXVI proposal LRC-XXXVI-A. Porter said the project proposes a series of tests to determine the potential of lignite to cause blinding of Selective Catalytic Reduction (SCR) catalysis and to determine the degree of elemental mercury (Hg^0) conversion across the catalysis. He said the U. S. Environmental Protection Agency’s existing and proposed rules and recommendations may require the construction of SCR facilities at existing or new lignite-fired facilities.

As technical advisor, Porter recommended the project be funded, with two contingencies: 1) Industry matching funding letters of commitment obtained by September 1, 2000; and 2) Program includes testing with North Dakota lignite.

Porter said technical peer reviewers gave the project an average weighted score of 179.3 out of a possible 250 points. Reviewer 3 recommended the project be funded, and gave the project an average weighted score of 200. Reviewer 1 gave the project 182 points and recommended the project be funded; Reviewer 2 gave it 156 points and recommended funding may be considered. Porter said the conflict-of-interest party for this proposal is the Energy & Environmental Research Center.

Francis Schwindt pointed out a discrepancy in the proposal. Page 8 of the proposal includes this passage: “In its 1990 Clean Air Act Amendments, Congress specifically directed EPA to establish new nitrogen oxide (NO_x) emission standards that incorporate improvements in methods for the reduction of NO_x . As a result, North Dakota utilities are forced to lower NO_x emissions to 0.1 lb/MMBtu for coal-fired utility boilers.” Schwindt said the following passage on page 9 of the proposal contradicts the 0.1 lb figure: “The 1990 Clean Air Act Amendments specifically directed EPA to exercise its delegated authority and establish new NO_x emission standards that incorporate improvements in methods for the reduction of NO_x . As a result, EPA promulgated a rule lowering its NO_x New Source Performance Standards to 0.15 lb/MMBtu for utility boilers and 0.20 lb/MMBtu for industrial boilers”.

Chris Zygarlicke, one of the project’s three co-managers, said the error in the proposal will be corrected from 0.1 to 0.15. Zygarlicke then gave a presentation in support of the proposal.

Dwyer asked if Zygarlicke agrees that a third condition should be added to the two conditions that Porter had listed for this proposal. The third condition would address correcting the error on page 8 of the proposal from 0.1 lb/MMBtu for coal fired utility boilers to 0.15. Zygarlicke said the error will be corrected.

LRC-XXXVI-B: “Lignite Fuel Enhancement: Incremental Moisture Reduction Project Phase 1 – As Amended”; Submitted by: The Falkirk Mining Company; Project Manager: Dennis R. James; Request for: \$161,000; Total Project Cost: \$322,666; Timeframe: 8 months.

Porter summarized the four technical peer reviewers' comments and technical advisor recommendations for funding for the Grant Round XXXVI proposal LRC-XXXVI-B, titled “Lignite Fuel Enhancement: Incremental Moisture Reduction Project Phase 1 – As Amended”.

Dwyer asked Porter to summarize proposal LRC-XXXVI-B. Porter said LRC members received two versions of the proposal. The proposal under consideration at the February 22, 2000 meeting is the amended version: “Lignite Fuel Enhancement: Incremental Moisture Reduction Project Phase 1 – As Amended”. Porter said the overall objective of the proposal is to reduce the moisture content of lignite incrementally. As technical advisor, Porter recommended the project be funded. He said the project

received mixed reviews from the technical peer reviewers. The four technical peer reviewers gave the project an average weighted score of 133.3 out of 250 points. The scores were 109 from Reviewer 4, 162 from Reviewer 5, 95 from Reviewer 6 and 167 from Reviewer 7. Reviewer 5 said the project should be funded; Reviewers 4 and 7 recommended funding may be considered, and Reviewer 6 recommended the project not be funded. Porter said conflict-of-interest parties for this proposal are The North American Coal Corporation and Great River Energy.

John Weeda of Great River Energy and project manager Dennis James of The Falkirk Mining Company spoke in support of the proposal. Vern Laning asked what source of plant waste heat will be used in the study. Waste heat from the cooling tower water will be used, according to James.

Dwyer asked Karlene Fine to distribute ballots to the LRC members to vote for the two proposals (LRC-XXXVI-A and LRC-XXXVI-B).

Confidential Session for Lignite Marketing Feasibility Study: “Lignite Vision Project – Phase 2” (Submitted by Lignite Energy Council; Project Manager: Tony Rude; Request for: \$500,000)

Dwyer requested a motion to close the open session of the LRC meeting and begin the confidential session. Kevin Cramer so moved; seconded by Vern Laning. Dwyer asked that non-Lignite Research Council members leave the room prior to the confidential session concerning the lignite marketing feasibility study titled “Lignite Vision 21 Project – Phase 2”. He reported that the LRC Executive Committee met February 8, 2000 and voted to recommend that the Industrial Commission approve “Lignite Vision 21 Project - Phase 2”. Dwyer asked Vicki Gilmore to distribute to LRC members the confidential portion of the “Lignite Vision 21 Project – Phase 2” materials that were not posted on the Industrial Commission web site. Dwyer gave an introductory overview about the Lignite Vision 21 Project. Tony Rude, the former co-CEO of Great River Energy and the former CEO of United Power Association, has been retained by the Lignite Energy Council as Lignite Vision 21 Project manager. Rude gave a presentation explaining Phase 2 of the Lignite Vision 21 Project. After Rude’s presentation, Dwyer adjourned the confidential session and re-opened the non-confidential session of the LRC meeting.

Other Business: Grant Round XXXVII Deadline; Next Lignite Research Council Meeting

Dwyer said the Grant Round XXXVII application deadline is May 1, 2000. The other remaining grant application deadline for 2000 is September 1st. The remaining LRC meeting dates for 2000 are July 26th and October 25th.

Ballot Results for Proposals LRC-XXXVI-A and LRC-XXXVI-B

After Karlene Fine collected and counted the ballots, Dwyer announced the balloting results were as follows:

LRC-XXXVI-A: “Evaluation of Potential SCR Catalyst Blinding During Coal Combustion”:
Fund: 15; Do Not Fund: 0.

LRC-XXXVI-B: “Lignite Fuel Enhancement: Incremental Moisture Reduction Project Phase 1 – As Amended”:
Fund: 14; Do Not Fund: 1.

Dwyer said the Lignite Research Council’s recommendations will be considered by the Industrial Commission on March 8, 2000.

Adjournment

There being no further business, Dwyer asked for a motion to adjourn the meeting. Terry Hildestad so moved; seconded by Bruce Imsdahl. Meeting adjourned.

